



Infusing Technology into Education: How to Ensure Economic Competitiveness in the 21st Century

Moderated by Jim Goodnight, Founder and CEO, SAS Institute

Panelists:

- Anita G. Givens, Associate Commissioner for Standards and Programs, Texas Education Agency
- L. Michael Golden, Corporate Vice President, Education, Microsoft; former Deputy Secretary, Pennsylvania DOE
- Glenn Kleiman, Executive Director of the Friday Institute for Educational Innovation and Professor of Educational Leadership and Policy Studies at the NC State University College of Education
- Keith Krueger, CEO, Consortium on School Networking
- Bette Manchester, Director of the Maine International Center for Digital Learning



Critical Considerations for 1:1 Initiatives

- 1) Planning (must include all stakeholders)
- 2) Leadership
- 3) Professional development
 - 1) Technology tools
 - 2) Instructional strategies
 - 3) Available resources
- 4) Support
 - 1) Technical
 - 2) Pedagogical



Lessons Learned

- 1) This is about learning, not technology
- 2) Preparation for 21st Century Learning in a Global Knowledge Economy
- 3) Professional Learning Communities focused on Seven Literacies for the Knowledge Economy
- 4) Collaborative Leadership



Scalability/Sustainability

- Understanding the Total Cost of Ownership (TCO) upfront
 - Professional Development, Tech Support, Replacement
- Team approach
- Calculating the Value of Investment (The ROI in education)
- Affordable Devices: iPods, Cell Phones, Net Books



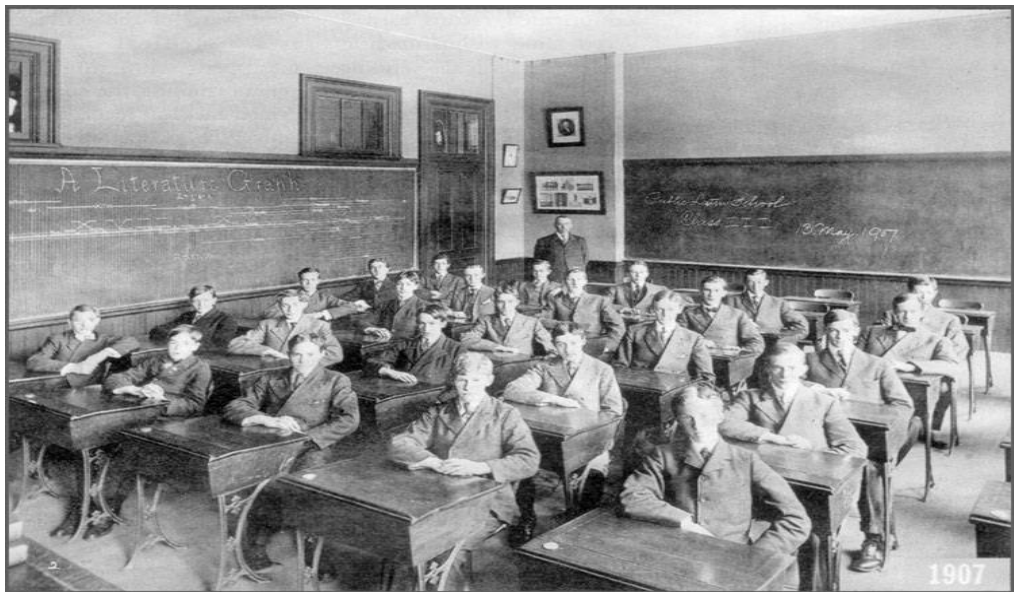
Role of Technology in STEM: Science, **Technology**, Engineering, and Math

- Project-based authentic learning
- Animations and virtual labs
- Distance learning
- Multiple approaches to teaching

Key Policy Issues

- Vision for 21st Century Learning
- Ongoing, sustainable funding (e.g. E-rate)
- Emphasizing Innovation (as well as accountability)
- New Approaches to Assessment
- Busting Down Budget/Departmental Silos

A 1907 Learning Ecology



A 2002 Learning Ecology



A New Learning Ecology



A New Learning Ecology





Requirements for Success

1. Effective school and district leadership teams made up of instructional, technology, and administrative leaders;
2. Updated curriculum, teaching methods, and assessments that incorporate 21st century skills as central goals and move schools toward the new learning ecology;
3. Programs to update the education workforce, and recruit and retain highly qualified professionals to join this workforce.
4. School-based staff who provide instructional support for the use of technology to enhance learning and technical support to ensure that the technology is reliable and up-to-date;



Requirements for Success

5. High bandwidth connectivity to the school and sufficient wireless connectivity throughout the school;
6. A networked, portable, digital device for each student, teacher, and administrator; and additional technology tools in each classroom;
7. Policies for ensuring student safety and appropriate use of computers, while still enabling teachers and students access to a wide range of information and communication resources;
8. Sustainable funding, which will require new models for state and local funding for education.